ROLE OF TEACHERS' INVOLVEMENT AND PUPILS' DIGITAL TECHNOLOGY INTERACTION ON ACADEMIC ACHIEVEMENT

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ABSTRACT

The study mainly explored the impact of teacher's involvement and pupils' digital technology interaction on academic achievement in the selected schools in Matalam South District. It specifically determined the extent of teachers' engagement; the extent of pupils' Digitech exposure; and the level of pupils' learning achievement. Further, it determined the significant relationship significant relationship between teacher's engagement and the pupils' learning achievement; the influence of teacher's engagement on the pupils' learning achievement. Moreover, it determined the significant relationship between Digitech exposure and learning achievement; and the influence of Digitech exposure and learning achievement. This research utilized descriptive – correlation research design to analyze the gathered data from the 100 respondents taken from the pupils and 100 respondents from the teachers. through stratified sampling by proportional allocation. The instruments used were adopted. Results of the reliability test using Cronbach's Alpha had 0.926 on teachers' engagement and 0.899 on Digitech exposure, and 0.667 on learning achievement. which meant that the instruments were highly reliable, respectively. Data gathering procedure by the use of communication addressed to different school heads, and the statistical tools utilized mean. While in determining the relationship of the study, Pearson r was used, and the significant influence employed by multiple linear regression. Teachers were strongly agreed on the facilitating learning, support, and collaboration. Pupils were moderately agreed on the internet culture, video games, and social media pertaining to Digitech exposure. Pupils were very satisfactory on the study habits, learning skills, and academic achievement. They were satisfactory when it came to their academic performance. Teachers' engagement and learning achievement were significantly related. Collaboration of teachers' engagement found to have significant influence on the learning skills of the pupils. Digitech exposure and learning achievement were associated. Lastly, Digitech exposure was highly significant on learning achievement of the pupils.

Keyword: - *Role of teachers' involvement, pupils' digital technology interaction, and academic achievement.*

1. INTRODUCTION

In the advent of COVID-19 outbreak, learners who are the end beneficiaries of the educational system took a huge tool insofar as quality learning is concerned. Many institutions shifted to a didactic method of instruction online in order to follow the government's restrictions.

Such pandemic changed the landscape of learning that it required learners to have at least the basic competencies in the utilization of digital technology (Zheng, 2021). This also paved way for teachers to change their pedagogies of delivering instruction thereby affecting all aspects of learning including teacher-learner engagement (Bender, 2021).

In higher education institutions, professors and students switched from traditional face-to-face classes to online learning was high. This constituted adopting modern ways of teaching-learning strategies to minimize the negative impact and ensure that quality education will still take place despite of the many strangling circumstances (Hamdan and Amorri, 2020).

This type of learning yielded both positive and negative results which were determined by the readiness and behaviour of the learners to capitulate to such method. Gautam (2020) capped that e-learning allowed for more flexibility to transpire as well as increased and optimized independent learning capacity. On the other hand, Thompson (2021) found out that learners had difficulty in staying motivated and find themselves in complete isolation after long periods of learning virtually.

While this system allowed for education to continue, the response of learners and families were at polarizing ends. In the context of public schools in the Philippines, many could not afford online learning as it will require gadgets and internet access in order to keep up with the demands of the situation (Dollanganer, 2020). In addition, buying the required gadgets does not necessarily ensure for education to continue. Learners have to familiarize their learning platforms first which will require ICT literacy before they could finally engage in the teaching-learning process.

Having identified these nuances, the researcher thought of probing into the different levels of teacher Involvement manifested through learners' digital technology interaction in the elementary level. These variables are then triangulated with the learners' academic achievement to gauge whether these had impact on the resumption of classes. The research also intends to conduct this study in the elementary level as there are less scholars which chose pupils as their respondents thereby establishing the nuance in this layer of educational system.

2. METHODOLOGY

This research utilized descriptive – correlation research design to analyze the gathered data from the 100 respondents taken from the pupils and 100 respondents from the teachers. through stratified sampling by proportional allocation. The instruments used were adopted. Results of the reliability test using Cronbach's Alpha had 0.926 on teachers' engagement and 0.899 on Digitech exposure which meant that the instruments were highly reliable, respectively. Data gathering procedure by the use of communication addressed to different school heads, and the statistical tools utilized mean. While in determining the relationship of the study, Pearson r was used, and the significant influence employed by multiple linear regression.

3. RESULTS AND DISCUSSION

**Relationship Between Teachers' Involvement
and Pupils' Academic Achievement**

**Facilitating Learning and Learning
Achievement**

Table 1 presents the relationship between the facilitating learning and learning achievement of the pupils. The correlation matrix shows that the facilitating learning had no significant relationship with all the parameters used to measure the learning achievement in terms of study habits (r=0.188 with a p-value of 0.061); learning skills (r=0.178 with a p-value of 0.076); academic achievement (r=0.184 with a p-value of 0.066); and academic performance (r=-0.106 with a p-value of 0.249).

The result means that teachers' engagement like facilitating learning is not significant to learning achievement on study habits, learning skills, academic achievement, and academic performance. The presented probability values which are greater than the set 5% level of significance means that the stated hypothesis is accepted.

Based on the findings, the findings imply that teacher involvement in facilitating learning is important, it may not be the sole determinant of students' overall academic success. Other factors, such as individual student motivation, learning styles, and external influences, may also play significant roles in shaping learning outcomes.

The result is supported to Brown (2018) stated that despite the importance of facilitating learning in creating conducive educational environments, research has shown that it may not always have a significant direct relationship with learning achievement. While educators play a crucial role in guiding students and providing

support, numerous other factors contribute to learning outcomes. Individual differences among students, such as motivation levels, prior knowledge, and socio-economic backgrounds, can significantly influence academic performance regardless of facilitation efforts.

Support and Learning Achievement

On support, the correlation matrix shows teachers' engagement like support had significant relationship with study habits (r=0.280** with a p-value of 0.005); and learning skills (r=0.273** with a p-value of 0.006). No correlations found on academic achievement and academic performance.

The result means that teachers' engagement like support is highly significant to learning achievement related to study habits and learning skills. The presented probability values which are less than the set 1% level of significance means that the stated hypothesis is rejected.

The results imply that teacher support plays in shaping pupils' approaches to studying and developing essential learning skills. By fostering a supportive learning environment and offering guidance and assistance, teachers can positively influence pupils' study habits and facilitate the acquisition of vital learning skills, which enhancing their overall academic performance and success.

Shao, Jie-Zhi, and Der-Hsiang (2019) shared that teachers' support is immensely significant in nurturing effective study habits and fostering the development of essential learning skills among students. Through guidance, encouragement, and tailored instruction, teachers play an important role in shaping students' academic journeys. They provide valuable insights into study techniques, time management strategies, and effective approaches to learning, helping students cultivate habits that optimize their academic performance.

Collaboration and Learning Achievement

On collaboration, the correlation matrix shows teachers' engagement like collaboration had significant relationship with study habits (r=0.278** with a p-value of 0.005); and learning skills (r=0.329** with a p-value of 0.001). No correlations found on academic achievement and academic performance.

The result means that teachers' engagement like collaboration is highly significant to learning achievement related to study habits and learning skills. The presented probability values which are lesser than the set 1% level of significance means that the stated hypothesis is rejected.

The findings imply that the teachers show collaborative to pupils in shaping effective study habits and fostering the development of essential learning skills. Through collaborative learning experiences, teachers can provide pupils with diverse perspectives, promote critical thinking, and encourage active participation, all of which contribute to improved study habits and enhanced learning skills.

Kimani, Kara, and Njagi (2018) said that teachers' collaboration is profoundly significant in shaping the study habits and learning skills of pupils, fostering a holistic and supportive educational environment. Through collaborative efforts, educators can share insights, best practices, and resources, enriching the learning experience for students. Collaborative planning allows teachers to design interdisciplinary approaches that reinforce key concepts and skills across various subjects, providing students with a cohesive learning experience.

Table 1.   Correlation Matrix Showing the Relationship between teacher's involvement and the pupils' learning engagement

Teacher's Involvement		Study Habits	Learning Skills	Academic Achievement	Academic Performance
Facilitating Learning	Pearson r	0.188^{ns}	0.178^{ns}	0.184^{ns}	-0.106^{ns}
	Probability	0.061	0.076	0.066	0.294
Support	Pearson r	0.280^{**}	0.273^{**}	0.161^{ns}	-0.121^{ns}
	Probability	0.005	0.006	0.109	0.232
Collaboration	Pearson r	0.278^{**}	0.329^{**}	0.121^{ns}	0.017^{ns}
	Probability	0.005	0.001	0.229	0.863

** = highly significant
ns = not significant

Relationship Between Pupils' Digital Technology Interaction and Pupils' Academic Achievement

Internet Culture and Learning Achievement

Table 2 presents the relationship between the internet culture and learning achievement of the pupils. The correlation matrix shows that the internet culture is significant relationship with the parameters used to measure the learning achievement in terms of study habits (r=0.386 with a p-value of 0.000); learning skills (r=0.350 with a p-value of 0.000). No correlation found on academic achievement and academic performance.

The result means that teachers' engagement like internet culture is highly significant to learning achievement on study habits and learning skills of the pupils. The presented probability values which are lesser than the set 1% level of significance means that the stated hypothesis is rejected.

The findings imply that digital literacy is increasingly important, the pervasive nature of internet culture shapes how pupils engage with information and acquire knowledge. Access to a vast array of online resources and platforms facilitates self-directed learning and fosters the development of critical thinking, research, and communication skills. Embracing internet culture not only enhances pupils' ability to navigate digital landscapes but also cultivates adaptive learning strategies essential for success in the modern educational landscape.

The finding is supported to what Andersen (2019) said that studying Digitech exposure is crucial in understanding contemporary learning habits and skills due to its integral role in internet culture. As digital technologies become increasingly intertwined with daily life, they shape how individuals gather information, process knowledge, and engage with educational content. Exploring Digitech exposure offers insights into the evolving dynamics of online learning environments, including the impact of social media, digital tools, and multimedia platforms on cognitive processes and educational outcomes.

Video Games and Learning Achievement

On video games, the correlation matrix shows Digitech exposure like video games had significant relationship with academic achievement (r=0.217** with a p-value of 0.030). No correlation found on study habits, learning skills, and academic performance.

The result means that Digitech exposure like video games is highly significant to academic achievement. The presented probability value which is less than the set 1% level of significance means that the stated hypothesis is rejected.

The results imply that educational video games hold significance in shaping the learning skills of pupils. With their immersive and interactive nature, video games provide opportunities for pupils to develop a range of cognitive abilities such as problem-solving, decision-making, spatial awareness, and strategic thinking. Moreover, integrating video games into educational contexts not only enhances engagement but also cultivates essential skills that are transferable to various academic disciplines and real-world scenarios, thereby enriching the learning experience for pupils.

The results conform to Barbe (2019) stated that educational video games demonstrate a significant relationship with pupils' academic achievement, serving as interactive tools that enhance learning experiences across various subjects. These games offer immersive environments where students can engage with curriculum content in dynamic and engaging ways, fostering deeper understanding and retention of key concepts. Research indicates that integrating educational video games into classroom instruction correlates with improved academic performance, as they promote critical thinking, problem-solving skills, and collaboration among students.

Social Media and Learning Achievement

On social medias, the correlation matrix shows Digitech exposure like social media had significant relationship with study habits (r=0.264** with a p-value of 0.008). No correlation found on learning skills, academic achievement, and academic performance.

The result means that Digitech exposure like social media is highly significant to study habits. The presented probability value which is less than the set 1% level of significance means that the stated hypothesis is rejected.

The findings imply social media plays a highly significant role in shaping the study skills of pupils. Social media platforms offer a wealth of resources, forums, and communities where pupils can collaborate, exchange ideas,

and access educational content. The use of social media encourages information literacy and critical thinking skills as pupils navigate through vast amounts of information and discern credible sources.

The finding is concomitant to what Furey (2020) shared that educational social media platforms hold significant importance in shaping the study habits of pupils, offering a dynamic space where learning transcends traditional boundaries. Through interactive discussions, resource sharing, and collaborative projects, students can engage with peers and educators in real-time, fostering a sense of community and peer-supported learning.

Table 2.   Correlation matrix showing the relationship between digital technology interaction and the pupils' academic achievement

Digital Technology Interaction		Study Habits	Learning Skills	Academic Achievement	Academic Performance
Internet Culture	Pearson r	0.386^{**}	0.350^{**}	0.133^{ns}	-0.164^{ns}
	Probability	0.000	0.000	0.187	0.102
	N	100	100	100	100
Video Games	Pearson r	0.175^{ns}	0.041^{ns}	0.217^{*}	-0.089^{ns}
	Probability	0.082	0.689	0.030	0.380
	N	100	100	100	100
Social Media	Pearson r	0.264^{**}	0.133^{ns}	0.111^{ns}	-0.029^{ns}
	Probability	0.008	0.187	0.272	0.778
	N	100	100	100	100

** = highly significant
* = significant
ns = not significant

4. CONCLUSIONS

In conclusion, the study presents compelling evidence that teachers' involvement is a pivotal factor in enhancing pupil academic performance. The strong agreement among teachers on the importance of facilitating learning, providing support, and fostering collaboration underscores the critical role of educators in shaping a conducive learning environment.

Moreover, the moderate agreement of pupils on the impact of digital technology interaction—including internet culture, video games, and social media—indicates a significant, yet varied, influence on their learning experiences. The high satisfaction levels reported by pupils concerning their study habits, learning skills, and academic achievement further reinforce the positive correlation between effective study practices and academic success.

The findings also highlight a noteworthy relationship between teachers' involvement and pupils' learning achievement, with collaborative efforts among educators being particularly influential on the learning skills of pupils. Additionally, the association between digital technology interaction and learning achievement suggests that digital technologies are more than mere tools; they are integral to the educational landscape, profoundly affecting learning outcomes.

Ultimately, the research suggests that a synergistic approach, combining dedicated teachers' involvement and strategic digital technology integration, can lead to enhanced learning achievements. This underscores the need for educational strategies that not only embrace technological advancements but also prioritize the active role of teachers in guiding and nurturing pupil development.

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